	Application No.	Applicant(s)	GV)
Notice of Allowability	09/945,125	FRATER, MARK S.	
	Examiner	Art Unit	
	Michael J Feely	1712	
The MAILING DATE of this communication appearable All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIOF of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in this ap or other appropriate communication IGHTS. This application is subject to	plication. If not includent will be mailed in due	ed course. THIS
1. This communication is responsive to <u>amendment filed 1/2:</u>	<u>1/04</u> .	Y	
2. The allowed claim(s) is/are <u>9,10,15 and 41-50</u> .			
3. The drawings filed on are accepted by the Examine	r.		•
 4. Acknowledgment is made of a claim for foreign priority una) All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). * Certified copies not received: Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONA 	e been received. e been received in Application No cuments have been received in this of this communication to file a reply	national stage applica	
 THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 5. A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which giv 	nitted. Note the attached EXAMINER reason(s) why the oath or declara	R'S AMENDMENT or Nation is deficient.	NOTICE OF
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") mure (a) ☐ including changes required by the Notice of Draftspers 1) ☐ hereto or 2) ☐ to Paper No./Mail Date (b) ☐ including changes required by the attached Examiner Paper No./Mail Date 6/16/03. Identifying indicia such as the application number (see 37 CFR reach sheet. Replacement sheet(s) should be labeled as such in the standard of the properties of th	son's Patent Drawing Review (PTO - 's Amendment / Comment or in the (1.84(c)) should be written on the draw the header according to 37 CFR 1.121 osit of BIOLOGICAL MATERIAL	Office action of ings in the front (not the d). must be submitted.	
Attachment(s) 1. Notice of References Cited (PTO-892) 2. Notice of Draftperson's Patent Drawing Review (PTO-948) 3. Information Disclosure Statements (PTO-1449 or PTO/SB/Paper No./Mail Date 4. Examiner's Comment Regarding Requirement for Deposit of Biological Material	Paper No./Mail Da	y (PTO-413), ate <u>0204</u> . Iment/Comment	

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John P. O'Banion (Reg. No. 33,201) on February 3, 2004.

The application has been amended as follows:

In the claims:

- 9. (Amended) A sheet laminate material for drilling a printed circuit board, comprising:
 - a first metal sheet;
 - a second metal sheet; and
 - a fibrous core;

said fibrous core coupled to said first metal sheet with a first adhesive layer; said fibrous core coupled to said second metal sheet with a second adhesive layer; wherein said adhesive layers contain a particulate lubricant, said lubricant comprising polyethylene glycol having a molecular weight ranging from approximately 600 to approximately 4,000.

10. (Amended) A sheet laminate material as recited in claim 9, wherein said adhesive layers comprise epoxy resin.

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- 15. (Amended) A sheet laminate material as recited in claim 9, wherein said adhesive layers contain approximately 0.1 percent to approximately 10 percent by weight of polyethylene glycol particulates.
- 41. (Amended) A sheet laminate material for drilling a printed circuit board, comprising:
 - a first substrate layer;
 - a second substrate layer; and
 - a fibrous core;

said fibrous core coupled to said first substrate with a first adhesive layer; said fibrous core coupled to said second substrate with a second adhesive layer; wherein said adhesive layers contain a particulate lubricant, said lubricant comprising polyethylene glycol having a molecular weight ranging from approximately 600 to approximately 4,000.

- 42. (Amended) A sheet laminate material as recited in claim 41, wherein said adhesive layers contain approximately 0.1 percent to approximately 10 percent by weight of polyethylene glycol particulates.
- 43. (Amended) A sheet laminate material as recited in claim 42, wherein said adhesive layers contain approximately 1 percent by weight of polyethylene glycol particulates.

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46. (Amended) A sheet laminate material as recited in claim 41, wherein said fibrous core has a thickness of between approximately 0.002 inches to approximately 0.01 inches; wherein said adhesive layers are permeated through said fibrous core.

- 47. (Amended) A sheet laminate material as recited in claim 41, wherein said adhesive layers comprise epoxy resin.
- 48. (Amended) A sheet laminate material as recited in claim 9, wherein said metal sheets have a thickness of between approximately 0.001 inches and approximately 0.003 inches.
- 49. (Amended) A sheet laminate material as recited in claim 9, wherein said fibrous core has a thickness of between approximately 0.002 inches to approximately 0.01 inches; wherein said adhesive layers are permeated through said fibrous core.
- 50. (Amended) A sheet laminate as recited in claim 9, wherein said sheet laminate material is compressed to a thickness of between approximately 0.007 to approximately 0.016 inches.

Allowable Subject Matter

- 2. Claims 9, 10, 15, and 41-50 are allowed.
- 3. The following is an examiner's statement of reasons for allowance:

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Independent claim 9 and dependent claims 10, 15, and 48-50:

Claim 9 has been rewritten to include the limitations of previous claim 16. Claim 16 was previously indicated as allowable subject matter; hence, claim 9 is allowable for the reasons set forth in section 13. Claims 10, 15, and 48-50 are allowed because they are dependent from claim 9.

Independent claim 41 and dependent claims 42-47:

Claim 41 is similar to claim 9, except the laminate material features generic substrate layers instead of metal sheets. As with claim 9, the closest prior art is Miller et al. (US Pat. No. 6,200,074). The laminate of Miller et al. includes a "lubricant/adhesive" that consists of a water dispersion of polyethylene oxide resin plasticized with a *high molecular weight* polyethylene glycol. The recitation of a "high molecular weight" appears to teach away from the claimed molecular weight range. Furthermore, polyethylene glycol is used to plasticize polyethylene oxide; hence, polyethylene glycol, as is, is not present in the "lubricant/adhesive" of Miller et al.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Feely Patent Examiner Art Unit 1712 PHILIPTUCKER
PRIMARY EXAMINER
ART UNIT 1712